

Claims

- [c1] 1. A reflective liquid crystal display, comprising:
a liquid crystal display panel having a plurality of pixels, wherein each pixel has a plurality of color blocks; and
a regional light source over the liquid crystal display panel to radiate directly thereon.
- [c2] 2. The reflective liquid crystal display according to Claim 1, wherein the regional light source comprises:
a substrate; and
a light-emitting structure on one side of the substrate.
- [c3] 3. The reflective liquid crystal display according to Claim 2, wherein the light-emitting structure is disposed on the side of the liquid crystal display panel facing the liquid crystal display panel.
- [c4] 4. The reflective liquid crystal display according to Claim 2, wherein the light-emitting structure is disposed on the side of the liquid crystal display panel distal to the liquid crystal display panel.
- [c5] 5. The reflective liquid crystal display according to Claim 2, wherein the light-emitting structure includes an organic light emitting diode.
- [c6] 6. The reflective liquid crystal display according to Claim 5, wherein the light-emitting structure further comprises:
a cathode;
an anode, under the cathode at the side facing the liquid crystal display panel;
and
a luminescent layer, between the cathode and the anode.
- [c7] 7. The reflective liquid crystal display according to Claim 2, wherein the light-emitting structure includes a plurality of spots scattered over each of the color blocks.
- [c8] 8. The reflective liquid crystal display according to Claim 7, wherein the light-emitting structure is disposed across at least two of the color blocks.

- [c9] 9. The reflective liquid crystal display according to Claim 1, wherein the regional light source is located at an edge of each of the color blocks.
- [c10] 10. The reflective liquid crystal display according to Claim 1, wherein the liquid crystal display panel comprises:
a color filter;
a polarizer on the color filter;
a thin-film transistor substrate without direct contact to the color filter;
a reflection layer, formed on the thin-film transistor substrate; and
a liquid crystal layer, filled between the color filter and the thin-film transistor substrate.
- [c11] 11. The reflective liquid crystal display according to Claim 10, wherein the regional light source is directly mounted to the polarizer.
- [c12] 12. A reflective liquid crystal display, comprising:
a liquid crystal display panel, having a plurality of pixels, and each of the pixels having a plurality of color blocks; and
an organic light emitting diode, disposed over the liquid crystal display panel to radiate thereon directly.
- [c13] 13. The reflective liquid crystal display according to Claim 12, wherein the light emitting diode comprises:
a substrate; and
a light-emitting diode on one side of the substrate.
- [c14] 14. The reflective liquid crystal display according to Claim 13, wherein the light-emitting diode is disposed on the side of the liquid crystal display panel facing the liquid crystal display panel.
- [c15] 15. The reflective liquid crystal display according to Claim 13, wherein the light-emitting diode is disposed on the side of the liquid crystal display panel distal to the liquid crystal display panel.
- [c16] 16. The reflective liquid crystal display according to Claim 13, wherein the light-emitting diode further comprises:

a cathode;
an anode, under the cathode at the side facing the liquid crystal display panel;
and
a luminescent layer, between the cathode and the anode.

[c17] 17. The reflective liquid crystal display according to Claim 13, wherein the organic light-emitting diode includes a plurality of spots scattered over each of the color blocks.

[c18] 18. The reflective liquid crystal display according to Claim 17, wherein the organic light-emitting diode is disposed across at least two of the color blocks.

[c19] 19. The reflective liquid crystal display according to Claim 12, wherein the organic light-emitting diode is located at an edge of each of the color blocks.

[c20] 20. The reflective liquid crystal display according to Claim 12, wherein the liquid crystal display panel comprises:
a color filter;
a polarizer on the color filter;
a thin-film transistor substrate without direct contact to the color filter;
a reflection layer, formed on the thin-film transistor substrate; and
a liquid crystal layer, filled between the color filter and the thin-film transistor substrate.

[c21] 21. The reflective liquid crystal display according to Claim 20, wherein the organic light-emitting diode is directly mounted to the polarizer.